

CLAIMS

1. An information recording apparatus for recording, on a recording medium, broadcasting information broadcasted with a plurality of pieces of unit information having a predetermined amount of information,

the apparatus comprising:

a constituting device which causes a predetermined number of pieces of the unit information included in the received broadcasting information to constitute a set of unit information,

a first generating device for generating receiving time information including a receiving time of a first received piece of the unit information included in the constituted set of unit information and a receiving time of a last received piece of the unit information included in the constituted set of unit information,

a detecting device for detecting predetermined specific information included in the unit information,

a second generating device for generating, based on the detected specific information, corresponding information which includes corresponding time information indicating a time corresponding to the specific information and corresponding position information indicating a position of the specific information in the set of unit information,

a third generating device for generating identification information which indicates whether the receiving time information and the corresponding information are both recorded on the recording medium, and

a recording device for recording the generated corresponding information, the generated receiving time information, and the generated identification information on the recording medium.

5 2. The information recording apparatus according to claim 1, wherein the specific information is predetermined specific image information included in the unit information, and

 the second generating device uses a receiving time of the specific image information as the time corresponding to the specific
10 information.

3. The information recording apparatus according to claim 1, wherein the specific information is predetermined specific image information included in the unit information, and

15 the second generating device uses, as the time corresponding to the specific information, a predetermined specific image information output time which corresponds to the specific image information and is broadcasted with the specific image information, the specific image information output time indicating a time when
20 the specific image information is reproduced and outputted after being recorded on the recording medium.

4. An information reproducing apparatus for reproducing the broadcasting information from the recording medium, the broadcasting
25 information having been recorded on the recording medium by the information recording apparatus according to any one of claims 1 to 3,

the reproducing apparatus comprising:

a first detecting device for detecting the identification information from the recording medium,

5 a second detecting device for detecting the recorded corresponding information when the detected identification information indicates that the receiving time information and the corresponding information are both recorded on the recording medium,

an identifying device for identifying a recording position of the broadcasting information to be reproduced on the recording medium
10 by using the detected corresponding information, and

a reproducing device for detecting and reproducing, from the identified recording position, the broadcasting information recorded on the recording position.

15 5. An information recording method for recording, on a recording medium, broadcasting information broadcasted with a plurality of pieces of unit information having a predetermined amount of information,

the method comprising:

20 a constituting process of causing a predetermined number of pieces of the unit information included in the received broadcasting information to constitute a set of unit information,

a first generating process of generating receiving time information including a receiving time of a first received piece
25 of the unit information included in the constituted set of unit information and a receiving time of a last received piece of the unit information included in the constituted set of unit information,

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a detecting process of detecting predetermined specific information included in the unit information,

5 a second generating process of generating, based on the detected specific information, corresponding information which includes corresponding time information indicating a time corresponding to the specific information and corresponding position information indicating a position of the specific information in the set of unit information,

10 a third generating process of generating identification information which indicates whether the receiving time information and the corresponding information are both recorded on the recording medium, and

15 a recording process of recording the generated corresponding information, the generated receiving time information, and the generated identification information on the recording medium.

6. The information recording method according to claim 5, wherein the specific information is predetermined specific image information included in the unit information, and

20 the second generating process uses a receiving time of the specific image information as the time corresponding to the specific information.

25 7. The information recording method according to claim 5, wherein the specific information is predetermined specific image information included in the unit information, and

the second generating process uses, as the time corresponding to the specific information, a predetermined specific image information output time which corresponds to the specific image information and is broadcasted with the specific image information, the specific image information output time indicating a time when the specific image information is reproduced and outputted after being recorded on the recording medium.

8. An information reproducing method for reproducing the broadcasting information from the recording medium, the broadcasting information having been recorded on the recording medium by the information recording method according to claim 5 or 6,

the reproducing method comprising:

a first detecting process of detecting the identification information from the recording medium,

a second detecting process of detecting the recorded corresponding information when the detected identification information indicates that the receiving time information and the corresponding information are both recorded on the recording medium,

an identifying process of identifying a recording position of the broadcasting information to be reproduced on the recording medium by using the detected corresponding information, and

a reproducing process of detecting and reproducing, from the identified recording position, the broadcasting information recorded on the recording position.

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and the corresponding information are both recorded on the recording medium, and

the recording device recording the generated corresponding information, the generated receiving time information, and the
5 generated identification information on the recording medium.

10. The information recording program according to claim 9, wherein the specific information is predetermined specific image information included in the unit information, and

10 the recording computer acting as the second generating device is caused to operate using a receiving time of the specific image information as the time corresponding to the specific information.

11. The information recording program according to claim 9, wherein
15 the specific information is predetermined specific image information included in the unit information, and

the recording computer acting as the second generating device is caused to operate using, as the time corresponding to the specific information, a predetermined specific image information output time
20 which corresponds to the specific image information and is broadcasted with the specific image information, the specific image information output time indicating a time when the specific image information is reproduced and outputted after being recorded on the recording medium.

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12. An information reproducing program for causing a reproducing computer to function as a first detecting device, a second detecting

9. An information recording program for causing a recording computer to function as a constituting device, a first generating device, a detecting device, a second generating device, a third generating device, and a recording device, the recording computer
5 being included in an information recording apparatus for recording, on a recording medium, broadcasting information broadcasted with a plurality of pieces of unit information having a predetermined amount of information,

the constituting device causing a predetermined number of pieces
10 of the unit information included in the received broadcasting information to constitute a set of unit information,

the first generating device generating receiving time information including a receiving time of a first received piece of the unit information included in the constituted set of unit
15 information and a receiving time of a last received piece of the unit information included in the constituted set of unit information,

the detecting device detecting predetermined specific information included in the unit information,

the second generating device generating, based on the detected
20 specific information, corresponding information which includes corresponding time information indicating a time corresponding to the specific information and corresponding position information indicating a position of the specific information in the set of unit information,

25 the third generating device generating identification information which indicates whether the receiving time information

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device, an identifying device, and a reproducing device, the reproducing computer being included in an information reproducing apparatus for reproducing the broadcasting information from the recording medium, the broadcasting information having been recorded
5 on the recording medium by the information recording apparatus according to any one of claims 1 to 3,

the first detecting device detecting the identification information from the recording medium,

the second detecting device detecting the recorded
10 corresponding information when the detected identification information indicates that the receiving time information and the corresponding information are both recorded on the recording medium,

the identifying device identifying a recording position of the broadcasting information to be reproduced on the recording medium
15 by using the detected corresponding information, and

the reproducing device detecting and reproducing, from the identified recording position, the broadcasting information recorded on the recording position.

20 13. An information recording medium, wherein the information recording program in any one of claims 9 to 11 is recorded so as to be read by the recording computer.

14. An information recording medium, wherein the information
25 reproducing program of claim 12 is recorded so as to be read by the reproducing computer.